

...OCTOBER 2009 REGIONAL CLIMATE SUMMARY...

SUMMARY FOR THE SAN FRANCISCO BAY AREA AND MONTEREY BAY AREA...

THE BIG WEATHER STORY OF OCTOBER 2009 WAS THE POWERFUL STORM THAT SWEEPED THROUGH THE AREA ON TUESDAY THE 13TH...A STORM THAT DREW COMPARISONS TO THE COLUMBUS DAY STORM OF OCTOBER 12 1962. THE OCTOBER 13 2009 STORM PRODUCED RECORD-SETTING OCTOBER DAILY RAINFALL AMOUNTS ACROSS THE REGION AND PUSHED RAINFALL TOTALS FOR THE MONTH WELL ABOVE NORMAL. OCTOBER 2009 WAS ALSO COOLER THAN NORMAL... PARTICULARLY HIGH TEMPERATURES. COOLER THAN NORMAL WEATHER WAS DUE IN LARGE PART TO A COUPLE OF DRY BUT COLD WEATHER SYSTEMS THAT DROPPED IN FROM THE NORTH...THE FIRST NEAR THE BEGINNING OF THE MONTH AND THE SECOND NEAR THE END.

OCTOBER 2009 STARTED OFF TRANQUIL WITH LIGHT OFFSHORE FLOW AND WARM DAYTIME TEMPERATURES ACROSS THE REGION ON THE 1ST AND 2ND. BUT TEMPERATURES PLUMMETED ON THE 3RD AS A DEEP UPPER TROUGH OVER BRITISH COLUMBIA DROPPED SOUTH INTO THE WESTERN UNITED STATES. AN UNSEASONABLY COOL AIRMASS SETTLED OVER THE REGION FOR THE NEXT FEW DAYS AND RECORD LOW TEMPERATURES WERE SET ON THE MORNING OF THE 4TH AND 5TH. TEMPERATURES GENERALLY REMAINED BELOW NORMAL FOR THE REMAINDER OF THE FIRST TWO WEEKS OF OCTOBER.

THE MAJOR STORM THAT CAME ASHORE ON THE 13TH INTENSIFIED IN THE PACIFIC WHEN A MID-LATITUDE WEATHER SYSTEM MERGED WITH THE REMNANTS OF A WESTERN PACIFIC TYPHOON (MELOR). THE ADDITION OF TROPICAL MOISTURE INTO THE SYSTEM RESULTED IN RAPID STORM INTENSIFICATION OFF THE CALIFORNIA COAST AS WELL AS VERY HEAVY RAINFALL ACROSS THE SAN FRANCISCO AND MONTEREY BAY AREAS AS THE STORM MADE LANDFALL ON THE 13TH. SEVERAL DAILY RAINFALL RECORDS WERE SET FOR THE MONTH OF OCTOBER (SEE LIST BELOW). 24 HOUR RAINFALL TOTALS GENERALLY RANGED FROM 2 TO 6 INCHES AT LOWER ELEVATIONS AND FROM 5 TO 10 INCHES IN THE COASTAL MOUNTAIN RANGES. LARGEST RAINFALL TOTALS WERE IN THE SANTA CRUZ MOUNTAINS AND SANTA LUCIA MOUNTAINS WHERE STORM TOTAL RAINFALL AMOUNTS OF BETWEEN 10 AND 15 INCHES WERE RECORDED. HEAVY RAINFALL CAUSED SOME STREAMS AND CREEKS ACROSS THE REGION TO REACH BANKFUL...BUT MOST STREAMS AND CREEKS AND ALL LARGER RIVERS REMAINED IN THEIR BANKS. THE MOST SERIOUS FLOODING OCCURRED IN MORGAN HILL WHERE MORE THAN 7 INCHES OF RAIN IN 13 HOURS RESULTED IN URBAN FLOODING THROUGHOUT MUCH OF THE DOWNTOWN AREA.

IN ADDITION TO HEAVY RAIN...THE OCTOBER 13TH STORM PRODUCED VERY STRONG SOUTHERLY WINDS ACROSS THE AREA. SEVERAL LOCATIONS REPORTED WIND GUSTS IN EXCESS OF 50 MPH...AND PEAK WIND GUSTS OF 70 MPH OCCURRED AT A FEW LOCATIONS IN THE SAN FRANCISCO BAY AREA. STRONG WINDS RESULTED IN DOWNED TREES AND POWER OUTGAGES. ALTHOUGH VERY STRONG WINDS OCCURRED ON THE 13TH...WINDS WITH THIS STORM WERE NOT QUITE AS STRONG AS THOSE THAT OCCURRED WITH ANOTHER RELATIVELY RECENT MAJOR STORM. PEAK MEASURED WIND GUSTS DURING THE STORM OF JANUARY 4 2008 WERE ABOUT 10 TO 15% HIGHER THAN THOSE THAT OCCURRED ON OCTOBER 13 2009.

COMPARISONS WERE ALSO MADE BETWEEN THE OCTOBER 13TH STORM AND THE

COLUMBUS DAY STORM OF OCTOBER 12 1962. PEAK WIND GUSTS WERE MUCH HIGHER WITH THE STORM IN 1962 (IN EXCESS OF 100 MPH)...BUT STRONGEST WINDS WITH THAT STORM WERE FOCUSED MUCH FARTHER TO THE NORTH ALONG THE OREGON COAST. RAINFALL TOTALS ACROSS MUCH OF THE SAN FRANCISCO BAY AREA...PARTICULARLY THE NORTH BAY...WERE SIGNIFICANTLY GREATER IN 1962 COMPARED TO 2009. BUT FARTHER TO THE SOUTH...THE 2009 STORM GENERALLY PRODUCED GREATER AMOUNTS OF RAIN. IT IS IMPORTANT TO NOTE THAT RAINFALL DURING THE COLUMBUS DAY STORM OF 1962 WAS SPREAD OVER TWO CALENDAR DAYS (12TH AND 13TH)...WHEREAS RAINFALL DURING THE OCTOBER 13 2009 STORM WAS CONFINED ALMOST ENTIRELY TO ONE CALENDAR DAY. CLEARLY...THE NUMBER OF DAILY RAINFALL RECORDS SET IN OCTOBER 2009 WOULD HAVE BEEN SIGNIFICANTLY LESS HAD THE 1962 STORM NOT SPANNED TWO CALENDAR DAYS.

THE AIRMASS OVER OUR REGION REMAINED VERY MOIST EVEN AFTER THE OCTOBER 13TH STORM HAD MOVED ON. WARMER TEMPERATURES DEVELOPED FROM THE 14TH THROUGH THE 17TH. THE COMBINATION OF WARM TEMPERATURES AND SURFACE DEWPOINTS IN THE 60S RESULTED IN A TROPICAL FEEL TO THE AIR FOR A FEW DAYS DURING THE MIDDLE PART OF THE MONTH.

A WEAK COLD FRONT MOVED FROM NORTH TO SOUTH THROUGH THE REGION ON THE 19TH. RAINFALL WITH THE FRONT ITSELF WAS LIGHT. HOWEVER...A LINE OF INTENSE SHOWERS WITH VERY HEAVY RAINFALL DEVELOPED BEHIND THE FRONT OVER THE NORTH BAY DURING THE AFTERNOON. THESE SHOWERS THEN MOVED SOUTH OF THE GODLEN GATE WHERE RAIN RATES IN EXCESS OF ONE INCH PER HOUR CAUSED URBAN FLOODING IN SAN FRANCISCO AND ACROSS PORTIONS OF THE EAST BAY.

WARMER WEATHER OCCURRED FROM THE 23RD THROUGH THE 26TH...BUT MUCH COOLER CONDITIONS DEVELOPED ON THE 27TH WHEN A DRY COLD FRONT SWEPT THROUGH THE AREA. TEMPERATURES COOLED BY AS MUCH AS 20 DEGREES FROM THE 26TH TO THE 27TH. BLUSTERY CONDITIONS DEVELOPED BEHIND THE FRONT. STRONG AND GUSTY NORTHWEST WINDS BUFFETTED THE REGION ON THE 27TH AND 28TH.

RAINFALL FROM THE OCTOBER 13TH STORM AND THE HEAVY SHOWERS ON THE 19TH RESULTED IN MUCH ABOVE NOMRAL OCTOBER RAINFALL TOTALS. RAINFALL ACROSS OUR AREA DURING OCTOBER 2009 WAS GENERALLY 200 TO 400 PERCENT OF NORMAL...AND AS MUCH AS 700 PERCENT OF NORMAL (IN GILROY). IN ADDITION...THE OCTOBER 13TH STORM PUSHED YEAR-TO-DATE RAINFALL TOTALS MUCH ABOVE NORMAL. RAINFALL TOTALS FROM JULY 1ST TO OCTOBER 31ST RANGED FROM BETWEEN 150 AND 250 PERCENT OF NORMAL. THE YEAR TO DATE RAINFALL TOTAL IN OAKLAND AS OF OCTOBER 31ST WAS NEARLY 300 PERCENT OF NORMAL.

...OCTOBER REGIONAL TEMPERATURE SUMMARY...

	DEPARTURE			DEPARTURE		
	AVG	NORMAL	FROM	AVG	NORMAL	FROM
LOCATION	HIGH	HIGH	NORMAL	LOW	LOW	NORMAL

NORTH BAY...

ANGWIN	M	72.4	M	M	49.3	M
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FORT ROSS	76.5	80.0	-3.5	45.3	45.1	0.2
HEALDSBURG	M	77.7	M	M	48.8	M
KENTFIELD	70.2	75.4	-5.2	50.5	48.9	1.6
NAPA	75.0	77.0	-2.0	49.5	49.0	0.5
PETALUMA	M	76.1	M	47.2	M	M
SAINT HELENA	74.2	77.5	-3.3	50.2	46.9	3.3
SAN RAFAEL	70.2	74.7	-4.5	49.9	50.9	-1.0
SANTA ROSA	74.8	76.8	-2.0	48.3	48.2	0.1
SONOMA	73.1	80.0	-6.9	48.0	46.1	1.9

SAN FRANCISCO PENINSULA...

HALF MOON BAY	65.4	65.5	-0.1	48.2	48.7	-0.5
PACIFICA	67.3	69.0	-1.7	51.9	52.5	-0.6
PALO ALTO	M	72.8	M	M	48.2	M
REDWOOD CITY	71.3	74.9	-3.6	50.3	49.3	1.0
SAN FRANCISCO AIRPORT	69.3	70.4	-1.1	54.3	52.4	1.9
SAN FRANCISCO DOWNTOWN	67.9	70.1	-2.2	54.3	54.6	-0.3
WOODSIDE	M	78.7	M	M	45.1	M

EAST BAY...

BERKELEY	M	69.7	M	M	53.2	M
CONCORD	72.9	77.5	-4.6	51.2	52.9	-1.7
FREMONT	70.7	73.5	-2.8	51.6	51.5	0.1
LIVERMORE	74.2	78.2	-4.0	50.1	48.3	1.8
MARTINEZ	72.6	76.8	-4.2	48.9	49.5	-0.6
MOUNT DIABLO JUNCTION	67.0	74.1	-7.1	50.3	51.5	-1.2
NEWARK	70.8	72.8	-2.0	52.9	53.7	-0.8
OAKLAND	70.5	72.1	-1.6	52.6	55.4	-2.8
RICHMOND	M	72.3	M	M	53.3	M

SOUTH BAY AND SANTA CRUZ COUNTY...

BEN LOMOND	76.5	77.9	-1.4	45.5	44.6	0.9
GILROY	74.5	79.0	-4.5	50.0	48.3	1.7
LOS GATOS	M	75.6	M	M	48.4	M
MOUNT HAMILTON	61.0	65.4	-4.4	47.5	50.8	-3.3
SAN JOSE	72.5	74.7	-2.2	52.4	52.4	0.0
SANTA CRUZ	71.5	72.3	-0.8	48.5	48.2	0.3
WATSONVILLE	70.6	72.2	-1.6	49.6	48.0	1.6

MONTEREY AND SAN BENITO COUNTIES...

BIG SUR STATION	M	72.6	M	M	47.8	M
CARMEL VALLEY	72.5	76.7	-4.2	46.9	46.6	0.3
HOLLISTER	73.2	77.5	-4.3	48.8	47.6	1.2
KING CITY	75.1	79.6	-4.5	46.9	45.5	1.4
MONTEREY	66.7	70.2	-3.5	51.1	51.1	0.0
PINNACLES NATIONAL MONUMENT	76.4	81.0	-4.6	42.2	42.2	0.0

SALINAS	71.2	73.3	-2.1	48.4	49.7	-1.3
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...OCTOBER REGIONAL PRECIPITATION SUMMARY...

LOCATION	OCT TOTAL	AVERAGE OCT PRECIP	PERCENT OF NORMAL
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NORTH BAY...

ANGWIN	M	2.09	M
CALISTOGA	3.87	2.00	194
CLOVERDALE	2.82	2.25	125
FORT ROSS	2.99	2.28	131
HEALDSBURG	M	2.12	M
KENTFIELD	7.95	2.33	341
MUIR WOODS	M	2.07	M
NAPA	5.08	1.43	355
OCCIDENTAL	5.77	3.30	175
PETALUMA	M	1.42	M
SAINT HELENA	4.90	1.81	271
SAN RAFAEL	6.72	1.55	434
SANTA ROSA	3.34	1.81	185
SONOMA	2.76	1.61	171

SAN FRANCISCO PENINSULA...

HALF MOON BAY	3.05	1.82	168
PACIFICA	4.76	1.32	361
PALO ALTO	M	0.89	M
REDWOOD CITY	3.88	1.06	366
SAN FRANCISCO AIRPORT	2.96	1.04	285
SAN FRANCISCO DOWNTOWN	3.11	1.16	268
WOODSIDE	M	1.46	M

EAST BAY...

BERKELEY	4.79	1.39	345
CONCORD	2.90	0.65	446
FREMONT	2.93	0.70	419
LIVERMORE	2.79	0.82	340
MARTINEZ	4.00	0.94	426
MOUNT DIABLO JUNCTION	5.96	1.36	438
NEWARK	1.83	0.90	203
OAKLAND	4.98	1.38	361
RICHMOND	4.29	1.40	306

SOUTH BAY AND SANTA CRUZ COUNTY...

BEN LOMOND	10.50	2.29	459
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GILROY	6.61	0.93	711
LOS GATOS	M	1.02	M
MOUNT HAMILTON	3.91	1.51	259
SAN JOSE	2.41	0.88	274
SANTA CRUZ	4.08	1.44	283
WATSONVILLE	5.31	1.06	501

MONTEREY AND SAN BENITO COUNTIES...

BIG SUR STATION	M	2.01	M
CARMEL VALLEY	3.77	0.70	539
HOLLISTER	2.49	0.63	395
KING CITY	2.46	0.57	432
MONTEREY	3.41	1.05	325
PINNACLES NATIONAL			
MONUMENT	2.53	0.93	272
SALINAS	2.02	0.75	269

...DAILY TEMPERATURE RECORDS FOR OCTOBER 2009...

DATE	LOCATION	RECORD LOW	OLD RECORD
10/4	OAKLAND MUSEUM	50	51 IN 1973
10/4	OAKLAND AIRPORT	45	47 IN 2005
10/5	OAKLAND MUSEUM	49	51 IN 1973
10/5	SAN FRANCISCO AIRPORT	47	47 IN 1969
10/5	MONTEREY	44	45 IN 1954
10/8	OAKLAND MUSEUM	47	47 IN 1970
10/29	OAKLAND AIRPORT	43	43 IN 1971

...24 HOUR (MIDNIGHT TO MIDNIGHT) DAILY PRECIPITATION RECORDS FOR OCTOBER 2009...

ON THE 13TH...SEVERAL LOCATIONS SET 24 HOUR (MIDNIGHT TO MIDNIGHT) RAINFALL RECORDS FOR THE MONTH OF OCTOBER:

LOCATION	RECORD RAINFALL (INCHES)	OLD RECORD
KENTFIELD	6.14	5.81 OCT 12 1962
GILROY	5.95	1.97 OCT 28 1981
SAN RAFAEL	5.69	3.43 OCT 15 1969
MT. DIABLO JUNCTION	5.58	4.80 OCT 13 1962
WATSONVILLE	5.23	1.94 OCT 14 1962
PACIFICA	4.60	2.18 OCT 12 2007
BERKELEY	3.93	3.22 OCT 21 1899
SANTA CRUZ	3.88	3.15 OCT 20 1899
OAKLAND MUSEUM	3.87	2.06 OCT 29 1992
CARMEL VALLEY	3.75	1.36 OCT 19 2004
RICHMOND	3.38	3.29 OCT 12 1962

MONTEREY	3.35	1.80	OCT 26 1907
MOUNT HAMILTON	3.20	2.10	OCT 26 1991
SAN FRANCISCO AIRPORT	2.62	2.61	OCT 13 1962
FREMONT	2.57	0.86	OCT 26 2004
CONCORD	2.55	1.74	OCT 26 1991
PINNACLES NATL MONUMENT	2.53	1.85	OCT 30 1996
SAN FRANCISCO DOWNTOWN	2.48	2.29	OCT 15 1969
KING CITY	2.45	1.99	OCT 29 1996
HOLLISTER	2.31	1.07	OCT 28 1981
LIVERMORE	2.21	2.17	OCT 13 1962
SALINAS	1.96	1.50	OCT 30 1982
NEWARK	1.71	1.41	OCT 10 1947

...MONTHLY RANKS FOR DOWNTOWN SAN FRANCISCO...

AVERAGE HIGH TEMPERATURE.....67.9.....53RD COOLEST
 AVERAGE LOW TEMPERATURE.....54.3.....58RD WARMEST
 MONTHLY RAINFALL.....3.11 INCHES.....7TH WETTEST

NOTE: THIS CLIMATOLOGICAL DATA IS PRELIMINARY. FOR OFFICIAL
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DYKEMA